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■ Guide To Career Choices

THE FUTURE IS YOURS

architectural & engineering

SERVICES

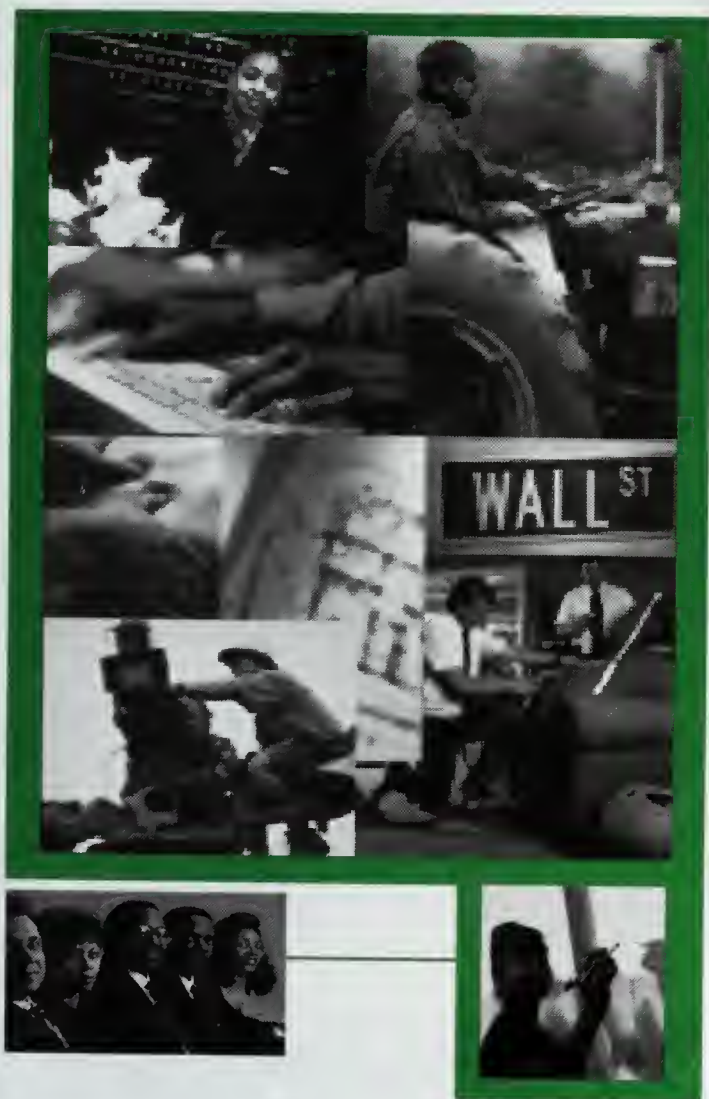
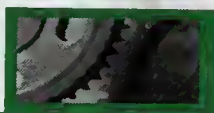
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a brief look at:

APR 10 2002

- jobs
- education and training requirements
- wages
- outlook

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ARCHITECTURAL & ENGINEERING SERVICES

guide no. 05

ENTRY : The mean (average) of the bottom third of wages in an occupation.
 MEDIAN: Half of the workers in the occupation earn more than this wage; half earn less.
 EXPERIENCED : The mean of the top two-thirds of wages in an occupation.

HS > High School diploma or equivalent
 AD > Associate Degree of Arts/Science community college, 2 years
 BA/BS > Bachelor of Arts/Science degree colleges/universities, 4 years



OUTLOOK HOURLY WAGES

| Career Opportunities | 2008 EMPLOYMENT | LONG-TERM OUTLOOK | SHORT-TERM FORECAST | ENTRY | MEDIAN | EXPERIENCED | EDUCATION AND TRAINING |
|---|-----------------|-------------------|---------------------|---------|---------|-------------|---|
| Architects, Except Landscape & Marine | 5,359 | F | F | \$17.08 | \$23.75 | \$30.79 | A five-year Bachelor of Architecture degree, a three-year internship and licensing exam. |
| Civil Engineering Technicians & Technologists | 3,727 | F | F | \$11.36 | \$17.64 | \$21.83 | AD from community/junior college or technical institute is preferred. |
| Civil Engineers | 6,623 | F | F | \$17.56 | \$26.95 | \$30.73 | BS in engineering is usually required. In some instances, a degree in mathematics or a physical science is accepted. |
| Computer Engineers | 31,672 | VF | VF | \$15.47 | \$24.13 | \$29.77 | A BS in engineering is the standard for entry-level positions, but moving toward a master's degree. |
| Drafters | 9,812 | VUF | VUF | \$10.92 | \$15.09 | \$18.98 | AD from a technical institute or community college, or courses in engineering, architecture and mathematics offered by college extension divisions. Private technical institutes also offer drafting programs which vary in both length and the kinds of courses offered Students should select programs carefully. |
| Electrical & Electronic Assemblers | 14,487 | F | VUF | \$6.60 | \$9.39 | \$10.90 | AD from community/junior college or technical institute is preferred. Short-term on-the-job training provided by most employers. |
| Electrical & Electronic Engineers | 14,312 | VF | VF | \$18.58 | \$25.58 | \$29.73 | BS or a master's and doctoral degree in engineering is required by most employers. A degree in mathematics or physical science may be accepted. |
| Electrical & Electronic Engineering Technicians | 13,712 | VF | F | \$11.31 | \$16.80 | \$21.22 | AD in engineering technology or pre-engineering from a technical institute or community college. |
| Industrial Engineers, Except Safety | 5,913 | F | VUF | \$16.49 | \$23.42 | \$29.66 | BS in engineering is required by most employers. Familiarity with math, science, English, and social studies is recommended. |
| Mechanical Engineers | 11,102 | VF | F | \$18.05 | \$23.95 | \$28.52 | BS in engineering is the general entry requirement. A degree in mathematics or physical science may be considered. |

* Occupational growth rates and job opening data are based on All-Industry projections through the year 2008.

* Long-Term Outlook and Short-Term Forecast descriptors are derived from projected employment growth and the level of employment for the occupation as a percentage of total employment.

* Wage data cover full-time, part-time and seasonal employees but exclude temporary and contractual workers. Wages include piece rates, commissions and cost-of-living allowances but exclude overtime and tips.

***data are not available

F Favorable
 VF Very Favorable
 UF Unfavorable
 VUF Very Unfavorable

■ WHAT ARE SOME OF THE JOBS?

ARCHITECTS...design a wide variety of buildings and other structures and take into account not only the appearance of structures but safety, economy and functionality. Structures must suit the needs of the people who use them. Architects may be involved in all phases of project development from the initial discussion of general ideas with the client through construction. Their duties require numerous skills in design, engineering, management and communication.

DRAFTERS...prepare technical drawings that are followed by production and construction workers to build everything from spacecraft and industrial machinery to office buildings and all pipelines. Their drawings show the technical details of products and structures from all sides, including exact dimensions, materials to be used and procedures to be followed. Computer-aided design (CAD) systems are now used by drafters to prepare drawings on video screens.

ENGINEERING TECHNICIANS...use the principles and theories of science, engineering and mathematics to solve technical problems in research and development, manufacturing, sales, construction and customer service. Many assist engineers and scientists, especially in research and development.

ENGINEERS...apply the theories and principles of science and mathematics to the solution of practical technical problems. Usually their work is the link between a scientific discovery and its commercial application. Engineers design, plan and supervise the construction of buildings, highways and rapid transit systems. They also design and develop systems for control and automation of manufacturing processes. There are 25 major branches of engineering each of which has numerous subdivisions. Engineers may also specialize in one industry such as motor vehicles or one field of technology such as propulsion or guidance systems.

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■ WHAT IS THE JOB OUTLOOK?

Employment growth of both architects and engineers is expected to increase as fast as the average for all occupations through the year 2008. The renovation and rehabilitation of old buildings, particularly in urban areas where space for new buildings is becoming limited, is expected to provide jobs for architects and will compensate somewhat for any slowdowns in jobs related to new construction.

More engineers will be needed to improve deteriorating roads, bridges, water and pollution control systems and other public facilities. Employers will rely on engineers to further increase productivity as they increase investment in plant and equipment to expand output. In addition, competitive pressures and advancing technology will force companies to improve and update product designs more frequently.

■ WHERE CAN I FIND ADDITIONAL INFORMATION?

The Occupational Outlook Handbook, 2000-01 Edition, contains many additional sources of information for over 250 occupations in all sectors of the economy. You may order the Handbook by contacting the U.S. Government Bookstore, 401 South State Street, Suite 124, Chicago, Illinois 60605-1297, 312/353-5133 or check out the online version at <http://stats.bls.gov/ocohome.htm>.

For access to other labor market and workforce information on the internet, visit the following sites:

IDES' home page: <http://www.ides.state.il.us>,

LMI Source: <http://lmi.ides.state.il.us>,

Workforce Info Center: <http://www.ILWorkInfo.com> and a site targeted towards high school students:

<http://www.workforceinfo.state.il.us>.



Career Guide Sources:

Illinois Department of Employment Security's "Occupational Projections" and "Occupational Employment Statistics Wage Data" and the U.S. Bureau of Labor Statistics' "Occupational Outlook Handbook"

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